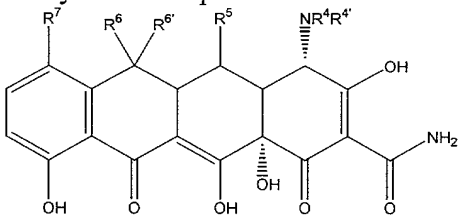
CLAIMS

1. A 7-substituted tetracycline compound of the formula:



(I)

wherein:

R^4 and $R^{4'}$ are each alkyl;

R^5 is hydrogen, hydroxyl, or a prodrug moiety;

R^6 and $R^{6'}$ are each independently hydrogen, hydroxyl, alkyl, or taken together, alkenyl;

R^7 is halo substituted or unsubstituted phenyl;

and pharmaceutically acceptable salts thereof.

2. The compound of claim 1, wherein R^5, R^6 and $R^{6'}$ are each hydrogen and R^4 and $R^{4'}$ are each methyl.

3. The compound of claim 1, wherein R^7 is unsubstituted phenyl.

4. The compound of claim 3, wherein said compound is 7-phenylsancycline.

5. The compound of claim 1, wherein R^7 is 2-substituted phenyl.

6. The compound of claim 5, wherein said compound is selected from the group consisting of 7-(2-fluorophenyl) sancycline, 7-(2-chlorophenyl) sancycline, 7-(2-bromophenyl) sancycline, and 7-(2-iodophenyl) sancycline.

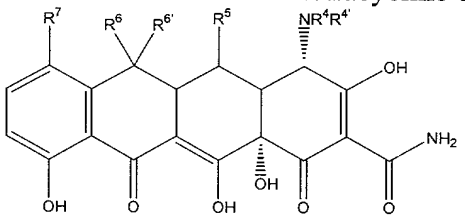
7. The compound of claim 1, wherein R^7 is 3-substituted phenyl.

8. The compound of claim 7, wherein said compound is selected from the group consisting of 7-(3-fluorophenyl) sancycline, 7-(3-chlorophenyl) sancycline, 7-(3-bromophenyl) sancycline, and 7-(3-iodophenyl) sancycline.

9. The compound of claim 1, wherein R^7 is 4-substituted phenyl.

10. The compound of claim 9, wherein said compound is selected from the group consisting of 7-(4-fluorophenyl) sancycline, 7-(4-chlorophenyl) sancycline, 7-(4-bromophenyl) sancycline, 7-(4-iodophenyl) sancycline, 7-(4-trichloromethylphenyl) sancycline, 7-(4-trifluoromethylphenyl) sancycline, 7-(4-tribromomethylphenyl) sancycline, and 7-(4-triiodomethylphenyl) sancycline.

11. A method for treating a tetracycline responsive state in a mammal, comprising administering to said mammal a 7-substituted tetracycline compound of formula (I):



(I)

wherein:

R^4 and $R^{4'}$ are each alkyl;

R^5 is hydrogen, hydroxyl, or a prodrug moiety;

R^6 and $R^{6'}$ are each independently hydrogen, hydroxyl, alkyl, or taken together, alkenyl;

R^7 is halo substituted or unsubstituted phenyl; and pharmaceutically acceptable salts thereof, such that the tetracycline responsive state is treated.

12. The method of claim 11, wherein R^5, R^6 and $R^{6'}$ are each hydrogen and R^4 and $R^{4'}$ are each methyl.

13. The method of claim 11, wherein R^7 is unsubstituted phenyl.

14. The method of claim 13, wherein said compound is 7-phenylsancycline.

15. The method of claim 1, wherein R^7 is 2-substituted phenyl.

16. The method of claim 15, wherein said compound is selected from the group consisting of 7-(2-fluorophenyl) sancycline, 7-(2-chlorophenyl) sancycline, 7-(2-bromophenyl) sancycline, and 7-(2-iodophenyl) sancycline.

17. The method of claim 11, wherein R^7 is 3-substituted phenyl.

18. The method of claim 17, wherein said compound is selected from the group consisting of 7-(3-fluorophenyl) sancycline, 7-(3-chlorophenyl) sancycline, 7-(3-bromophenyl) sancycline, and 7-(3-iodophenyl) sancycline.

19. The method of claim 11, wherein R^7 is 4-substituted phenyl.

20. The method of claim 19, wherein said compound is selected from the group consisting of 7-(4-fluorophenyl) sancycline, 7-(4-chlorophenyl) sancycline, 7-(4-bromophenyl) sancycline, 7-(4-iodophenyl) sancycline, 7-(4-trichloromethylphenyl) sancycline, 7-(4-trifluoromethylphenyl) sancycline, 7-(4-tribromomethylphenyl) sancycline, and 7-(4-triiodomethylphenyl) sancycline.

21. The method of claim 11, wherein said tetracycline responsive state is a bacterial infection.

22. The method of claim 21, wherein said bacterial infection is associated with *E. coli.*

23. The method of claim 21, wherein said bacterial infection is associated with *S. aureus.*

24. The method of claim 21, wherein said bacterial infection is associated with *E. faecalis.*

25. The method of claim 21, wherein said bacterial infection is resistant to other tetracycline antibiotics.

26. The method of claim 11, wherein said compound is administered with a pharmaceutically acceptable carrier.

27. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 and a pharmaceutically acceptable carrier.

28. The pharmaceutical composition of claim 27, wherein said compound is selected from the group consisting of 7-phenyl sancycline, 7-(2-fluorophenyl) sancycline, 7-(2-chlorophenyl) sancycline, 7-(2-bromophenyl) sancycline, 7-(2-iodophenyl) sancycline, 7-(3-fluorophenyl) sancycline, 7-(3-chlorophenyl) sancycline, 7-(3-bromophenyl)

sancycline, 7-(3-iodophenyl) sancycline, 7-(4-fluorophenyl) sancycline, 7-(4-chlorophenyl) sancycline, 7-(4-bromophenyl) sancycline, 7-(4-iodophenyl) sancycline, 7-(4-trichloromethylphenyl) sancycline, 7-(4-trifluoromethylphenyl) sancycline, 7-(4-tribromomethylphenyl) sancycline, and 7-(4-triiodomethylphenyl) sancycline.

29. A tetracycline compound, wherein said compound is 7,9-diphenyl sancycline or a pharmaceutically acceptable salt thereof.

30. A method for treating a tetracycline responsive state in a mammal, comprising administering to said mammal an effective amount of 7,9-diphenyl sancycline or a pharmaceutically acceptable salt thereof, such that said mammal is treated.

31. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 29 and a pharmaceutically acceptable carrier.